What is claimed is:

1. A method in a data processing system, comprising the steps of:

receiving an identification of a data structure with an attribute field in a
5   database;

determining whether the data structure is associated with source code;

when it is determined that the data structure is associated with source code,

determining whether the attribute field of the data structure is associated
with an attribute in the source code; and

10   when it is determined that the attribute field is not associated with an

attribute in the source code, generating a new attribute in the source code

from the attribute field.

2. The method of claim 1, further comprising the steps of:

when it is determined that the data structure is not associated with source code,

15   retrieving a portion of the data structure; and

generating the source code from the portion of the data structure.

3. The method of claim 1, further comprising the steps of:

when it is determined that the data structure is associated with source code,

determining whether a second attribute in the source code is associated
20   with a second attribute field in the data structure; and

when it is determined that a second attribute in the source code is not

associated with a second attribute field in the data structure, removing the

second attribute from the source code.

4. The method of claim 3, wherein the step of removing the second attribute from the
25   source code comprises the step of removing a method associated with the second
attribute from the source code.

5. The method of claim 3, further comprising the step of displaying a graphical
representation of the source code.

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6. The method of claim 5, further comprising the step of modifying the graphical representation of the source code to reflect the generation of the new attribute.

7. The method of claim 5, further comprising the step of modifying the graphical representation of the source code to reflect the removal of the second attribute.

8. The method of claim 1, wherein the step of determining whether the data structure is associated with the source code comprises the step of searching a comment in the source code for the identification of the data structure.

9. The method of claim 1, wherein the step of determining whether the data structure is associated with the source code comprises the step of comparing a name for the source code with the identification of the data structure.

10. The method of claim 1, further comprising the steps of:
    retrieving access information for the database; and
    retrieving a portion of the data structure from the database using the access information.

11. The method of claim 10, wherein the step of retrieving the access information comprises the step of retrieving the identification of the data structure and the access information from a configuration file;

12. The method of claim 10, wherein the step of retrieving the access information comprises the step of retrieving the identification of the data structure and the access information from a comment of the source code.

13. The method of claim 10, wherein the portion of the data structure comprises the attribute field of the data structure.

14. The method of claim 1, wherein the source code comprises a class.

15. The method of claim 1, wherein the source code comprises a distributed computing component.

16. The method of claim 15, wherein the distributed computing component is an Enterprise JavaBean™.

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17. The method of claim 1, wherein the step of generating the new attribute in the source code comprises the step of generating a method in the source code to access the attribute field of the data structure.

18. A method in a data processing system having source code that corresponds to a data structure on a secondary storage device, the method comprising the steps of:

receiving an indication to update the source code;

determining whether a first attribute in the source code is associated with a first attribute field in the data structure;

when it is determined that a first attribute in the source code is not associated with a first attribute field in the data structure, removing the first attribute from the source code;

determining whether a second attribute field in the data structure is associated with a second attribute in the source code; and

when it is determined that a second attribute field is not associated with a second attribute in the source code, generating the second attribute in the source code from the second attribute field and associating the second attribute with the second attribute field.

19. The method of claim 18, further comprising the step of retrieving an identification of the data structure and access information for the secondary storage from a comment in the source code.

20. The method of claim 19, further comprising the step of retrieving a portion of the data structure from the secondary storage device using the access information.

21. The method of claim 20, wherein the portion comprises the first and the second attribute fields.

22. The method of claim 18, wherein the step of removing the first attribute from the source code comprises the step of removing a method associated with the first attribute from the source code.

23. The method of claim 18, wherein the step of generating the second attribute in the source code comprises the step of generating a method in the source code to access the second attribute field of the data structure.

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24. A method in a data processing system having a memory device with source code and a secondary storage device with a data structure corresponding to the source code, the method comprising the steps of:

        receiving an indication that the data structure has been modified; and

5   automatically reflecting the modification in the source code so as to avoid completely regenerating the source code.

25. The method of claim 24, wherein the step of automatically reflecting the modification comprises the steps of:

        determining whether a first attribute in the source code is associated with a

10   first attribute field in the data structure; and

        when it is determined that a first attribute in the source code is not associated with a first attribute field in the data structure, removing the first attribute from the source code.

26. The method of claim 25, wherein the step of removing the first attribute from the

15 source code comprises the step of removing a first method associated with the first attribute in the source code.

27. The method of claim 25, wherein the step of automatically reflecting the modification further comprises the steps of:

        determining whether a second attribute field in the data structure is associated

20   with a second attribute in the source code; and

        when it is determined that a second attribute field in the data structure is not associated with a second attribute in the source code, generating the second attribute in the source code from the second attribute field and associating the second attribute with the second attribute field.

25 28. The method of claim 27, wherein the step of generating the second attribute in the source code comprises the step of generating a second method in the source code to access the second attribute field of the data structure.

29. The method of claim 24, further comprising the step of displaying a graphical representation of the source code.

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30. The method of claim 29, further comprising the step of modifying the graphical representation of the source code to reflect the modification.

31. The method of claim 24, wherein the source code comprises a class.

32. The method of claim 24, wherein the source code comprises a distributed computing component.

33. The method of claim 32, wherein the distributed computing component is an Enterprise JavaBean™.

34. A method in a data processing system having a memory device with source code, the method comprising the steps of:

determining whether the source code is associated with a data structure;

when it is determined that the source code is associated with the data structure,

5   determining whether a first attribute in the source code is associated with a first attribute field of the data structure;

when it is determined that the first attribute in the source code is not associated with the first attribute field in the data structure, generating the first attribute field in the data structure;

10   determining whether a second attribute field in the data structure is associated with a second attribute in the source code; and

when it is determined that the second attribute field is not associated with the second attribute in the source code, removing the second attribute field from the data structure.

15   35. The method of claim 34, further comprising the step of when it is determined that the source code is not associated with the data structure, generating the data structure from the source code.

36. The method of claim 34, wherein the step of determining whether the source code is associated with the data structure comprises the step of searching a comment in the

20   source code for an identification of the data structure.

37. The method of claim 34, wherein the step of determining whether the source code is associated with the data structure comprises the step of comparing a name for the source code with an identification of the data structure.

38. The method of claim 34, further comprising the steps of:

25   retrieving access information for a database that stores the data structure; and

retrieving a portion of the data structure from the database using the access information.

39. The method of claim 38, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a configuration file.

40. The method of claim 38, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a comment of the source code.

41. The method of claim 38, wherein the portion of the data structure comprises the first attribute field in the data structure.

42. The method of claim 34, wherein the source code comprises a class.

43. The method of claim 34, wherein the source code comprises a distributed computing component.

44. The method of claim 34, wherein the first attribute field in the data structure is related to a method in the source code.

45. A method in a data processing system having a memory device with source code, the method comprising the steps of:

    receiving an indication to update a data structure related to the source code;

    determining whether a first attribute field of the data structure is associated with a first attribute in the source code;

    when it is determined that the first attribute field of the data structure is not associated with the first attribute of the source code, removing the first attribute field from the data structure;

    determining whether a second attribute in the source code is associated with a second attribute field in the data structure; and

    when it is determined that the second attribute is not associated with the second attribute field in the data structure, adding the second attribute field to the data structure.

46. The method of claim 45, further comprising the steps of:

    retrieving access information for a database that stores the data structure; and

    retrieving a portion of the data structure from the database using the access information.

47. The method of claim 46, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a configuration file.

48. The method of claim 46, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a comment of the source code.

49. The method of claim 46, wherein the portion of the data structure comprises the first attribute field in the data structure.

50. The method of claim 45, wherein the source code comprises a class.

51. The method of claim 45, wherein the source code comprises a distributed computing component.

52. A method in a data processing system having a memory device with source code and a secondary storage device with a data structure corresponding to the source code, the method comprising the steps of:

    receiving an indication that the source code has been modified; and

5   automatically reflecting the modification in the data structure so as to avoid completely regenerating the data structure.

53. The method of claim 52, wherein the step of automatically reflecting the modification comprises the steps of:

    determining whether a first attribute in the source code is associated with a

10   first attribute field of the data structure; and

    when it is determined that a first attribute is not associated with a first attribute field in the data structure, generating the first attribute field in the data structure.

54. The method of claim 52, further comprising the steps of:

15   determining whether a second attribute field in the data structure is associated with a second attribute in the source code; and

    when it is determined that a second attribute field is not associated with a second attribute in the source code, removing the second attribute field from the data structure.

20 55. The method of claim 52, further comprising the steps of:

    retrieving access information for a database that stores the data structure; and

    retrieving a portion of the data structure from the database using the access information.

56. The method of claim 55, wherein the step of retrieving the access information

25 comprises the step of retrieving an identification of the data structure and the access information from a configuration file.

57. The method of claim 55, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a comment of the source code.

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58. The method of claim 55, wherein the portion of the data structure comprises the first attribute field in the data structure.

59. The method of claim 52, wherein the source code comprises a class.

60. The method of claim 52, wherein the source code comprises a distributed computing component.

61. The method of claim 52, wherein the first attribute field in the data structure is related to a method in the source code.

62. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the method comprising the steps of:

receiving an identification of a data structure with an attribute field in a database;

5   determining whether the data structure is associated with source code;

when it is determined that the data structure is associated with source code,

determining whether the attribute field of the data structure is associated with an attribute in the source code; and

when it is determined that the attribute field is not associated with an

10   attribute in the source code, generating a new attribute in the source code from the attribute field.

63. The computer-readable medium of claim 62, wherein the method further comprises the steps of:

when it is determined that the data structure is not associated with source code,

15   retrieving a portion of the data structure; and

generating the source code from the portion of the data structure.

64. The computer-readable medium of claim 62, wherein the method further comprises the steps of:

when it is determined that the data structure is associated with source code,

20   determining whether a second attribute in the source code is associated with a second attribute field in the data structure; and

when it is determined that a second attribute in the source code is not associated with a second attribute field in the data structure, removing the second attribute from the source code.

25   65. The computer-readable medium of claim 64, wherein the step of removing the second attribute from the source code comprises the step of removing a method associated with the second attribute from the source code.

66. The computer-readable medium of claim 64, wherein the method further comprises the step of displaying a graphical representation of the source code.

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67. The computer-readable medium of claim 66, wherein the method further comprises the step of modifying the graphical representation of the source code to reflect the generation of the new attribute.

68. The computer-readable medium of claim 66, wherein the method further comprises the step of modifying the graphical representation of the source code to reflect the removal of the second attribute.

69. The computer-readable medium of claim 62, wherein the step of determining whether the data structure is associated with the source code comprises the step of searching a comment in the source code for the identification of the data structure.

70. The computer-readable medium of claim 62, wherein the step of determining whether the data structure is associated with the source code comprises the step of comparing a name for the source code with the identification of the data structure.

71. The computer-readable medium of claim 62, wherein the method further comprises the steps of:

retrieving access information for the database; and

retrieving a portion of the data structure from the database using the access information.

72. The computer-readable medium of claim 71, wherein the step of retrieving the access information comprises the step of retrieving the identification of the data structure and the access information from a configuration file;

73. The computer-readable medium of claim 71, wherein the step of retrieving the access information comprises the step of retrieving the identification of the data structure and the access information from a comment of the source code.

74. The computer-readable medium of claim 71, wherein the portion of the data structure comprises the attribute field of the data structure.

75. The computer-readable medium of claim 62, wherein the source code comprises a class.

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76. The computer-readable medium of claim 62, wherein the source code comprises a distributed computing component.

77. The computer-readable medium of claim 76, wherein the distributed computing component is an Enterprise JavaBean™.

5   78. The computer-readable medium of claim 62, wherein the step of generating the new attribute in the source code comprises the step of generating a method in the source code to access the attribute field of the data structure.

79. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having source code that corresponds to a data structure on a secondary storage device, the method comprising the steps of:

5   receiving an indication to update the source code;

    determining whether a first attribute in the source code is associated with a first attribute field in the data structure;

    when it is determined that a first attribute in the source code is not associated with a first attribute field in the data structure, removing the first attribute

10   from the source code;

    determining whether a second attribute field in the data structure is associated with a second attribute in the source code; and

    when it is determined that a second attribute field is not associated with a second attribute in the source code, generating the second attribute in the

15   source code from the second attribute field and associating the second attribute with the second attribute field.

80. The computer-readable medium of claim 79, wherein the method further comprises the step of retrieving an identification of the data structure and access information for the secondary storage from a comment in the source code.

20 81. The computer-readable medium of claim 80, wherein the method further comprises the step of retrieving a portion of the data structure from the secondary storage device using the access information.

82. The computer-readable medium of claim 81, wherein the portion comprises the first and the second attribute fields.

25 83. The computer-readable medium of claim 79, wherein the step of removing the first attribute from the source code comprises the step of removing a method associated with the first attribute from the source code.

84. The computer-readable medium of claim 79, wherein the step of generating the second attribute in the source code comprises the step of generating a method in the source code to access the second attribute field of the data structure.

85. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having a memory device with source code and a secondary storage device with a data structure corresponding to the source code, the method comprising the steps of:

receiving an indication that the data structure has been modified; and

automatically reflecting the modification in the source code so as to avoid completely regenerating the source code.

86. The computer-readable medium of claim 85, wherein the step of automatically reflecting the modification comprises the steps of:

determining whether a first attribute in the source code is associated with a first attribute field in the data structure; and

when it is determined that a first attribute in the source code is not associated with a first attribute field in the data structure, removing the first attribute from the source code.

87. The computer-readable medium of claim 86, wherein the step of removing the first attribute from the source code comprises the step of removing a first method associated with the first attribute in the source code.

88. The computer-readable medium of claim 86, wherein the step of automatically reflecting the modification further comprises the steps of:

determining whether a second attribute field in the data structure is associated with a second attribute in the source code; and

when it is determined that a second attribute field in the data structure is not associated with a second attribute in the source code, generating the second attribute in the source code from the second attribute field and associating the second attribute with the second attribute field.

89. The computer-readable medium of claim 88, wherein the step of generating the second attribute in the source code comprises the step of generating a second method in the source code to access the second attribute field of the data structure.

90. The computer-readable medium of claim 85, wherein the method further comprises the step of displaying a graphical representation of the source code.

91. The computer-readable medium of claim 90, wherein the method further comprises the step of modifying the graphical representation of the source code to reflect the modification.

92. The computer-readable medium of claim 85, wherein the source code comprises a class.

93. The computer-readable medium of claim 85, wherein the source code comprises a distributed computing component.

94. The computer-readable medium of claim 93, wherein the distributed computing component is an Enterprise JavaBean™.

95. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having a memory device with source code, the method comprising the steps of:

determining whether the source code is associated with a data structure;

when it is determined that the source code is associated with the data structure,

determining whether a first attribute in the source code is associated with a first attribute field of the data structure;

when it is determined that the first attribute in the source code is not associated with the first attribute field in the data structure, generating the first attribute field in the data structure;

determining whether a second attribute field in the data structure is associated with a second attribute in the source code; and

when it is determined that the second attribute field is not associated with the second attribute in the source code, removing the second attribute field from the data structure.

96. The computer-readable medium of claim 95, wherein the method further comprises the step of when it is determined that the source code is not associated with the data structure, generating the data structure from the source code.

97. The computer-readable medium of claim 95, wherein the step of determining whether the source code is associated with the data structure comprises the step of searching a comment in the source code for an identification of the data structure.

98. The computer-readable medium of claim 95, wherein the step of determining whether the source code is associated with the data structure comprises the step of comparing a name for the source code with an identification of the data structure.

99. The computer-readable medium of claim 95, wherein the method further comprises the steps of:

retrieving access information for a database that stores the data structure; and

retrieving a portion of the data structure from the database using the access information.

100.   The computer-readable medium of claim 99, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a configuration file.

101.   The computer-readable medium of claim 99, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a comment of the source code.

102.   The computer-readable medium of claim 99, wherein the portion of the data structure comprises the first attribute field in the data structure.

103.   The computer-readable medium of claim 95, wherein the source code comprises a class.

104.   The computer-readable medium of claim 95, wherein the source code comprises a distributed computing component.

105.   The computer-readable medium of claim 95, wherein the first attribute field in the data structure is related to a method in the source code.

106. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having a memory device with source code, the method comprising the steps of:

receiving an indication to update a data structure related to the source code;

5 determining whether a first attribute field of the data structure is associated with a first attribute in the source code;

when it is determined that the first attribute field of the data structure is not associated with the first attribute of the source code, removing the first attribute field from the data structure;

10 determining whether a second attribute in the source code is associated with a second attribute field in the data structure; and

when it is determined that the second attribute is not associated with the second attribute field in the data structure, adding the second attribute field to the data structure.

15 107. The computer-readable medium of claim 106, wherein the method further comprises the steps of:

retrieving access information for a database that stores the data structure; and

retrieving a portion of the data structure from the database using the access information.

20 108. The computer-readable medium of claim 107, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a configuration file.

109. The computer-readable medium of claim 107, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data

25 structure and the access information from a comment of the source code.

110. The computer-readable medium of claim 107, wherein the portion of the data structure comprises the first attribute field in the data structure.

111. The computer-readable medium of claim 106, wherein the source code comprises a class.

112.   The computer-readable medium of claim 106, wherein the source code comprises a distributed computing component.

113.   A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having a memory device with source code and a secondary storage device with a data structure corresponding to the source code, the method comprising the steps of:

5   receiving an indication that the source code has been modified; and

automatically reflecting the modification in the data structure so as to avoid completely regenerating the data structure.

114.   The computer-readable medium of claim 113, wherein the step of automatically reflecting the modification comprises the steps of:

10   determining whether a first attribute in the source code is associated with a first attribute field of the data structure; and

when it is determined that a first attribute is not associated with a first attribute field in the data structure, generating the first attribute field in the data structure.

15   115.   The computer-readable medium of claim 113, wherein the method further comprises the steps of:

determining whether a second attribute field in the data structure is associated with a second attribute in the source code; and

when it is determined that a second attribute field is not associated with a

20   second attribute in the source code, removing the second attribute field from the data structure.

116.   The computer-readable medium of claim 113, wherein the method further comprises the steps of:

retrieving access information for a database that stores the data structure; and

25   retrieving a portion of the data structure from the database using the access information.

117.   The computer-readable medium of claim 116, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a configuration file.

118.	The computer-readable medium of claim 116, wherein the step of retrieving the access information comprises the step of retrieving an identification of the data structure and the access information from a comment of the source code.

119.	The computer-readable medium of claim 116, wherein the portion of the data
5	structure comprises the first attribute field in the data structure.

120.	The computer-readable medium of claim 113, wherein the source code comprises a class.

121.	The computer-readable medium of claim 113, wherein the source code comprises a distributed computing component.

10	122.	The computer-readable medium of claim 113, wherein the first attribute field in the data structure is related to a method in the source code.

123.   A data processing system comprising:

a secondary storage device further comprising source code that corresponds to a data structure on a secondary storage device;

a memory device further comprising a program that receives an indication to update the source code, that determines whether a first attribute in the source code is associated with a first attribute field in the data structure, and when it is determined that a first attribute in the source code is not associated with a first attribute field in the data structure, the program removes the first attribute from the source code, the program further determines whether a second attribute field in the data structure is associated with a second attribute in the source code, and when it is determined that a second attribute field is not associated with a second attribute in the source code, the program generates the second attribute in the source code from the second attribute field and associating the second attribute with the second attribute field; and

a processor for running the program.

124.   The data processing system of claim 123, wherein the program further retrieves an identification of the data structure and access information for the secondary storage from a comment in the source code.

125.   The data processing system of claim 124, wherein the program further retrieves a portion of the data structure from the secondary storage device using the access information.

126.   The data processing system of claim 125, wherein the portion comprises the first and the second attribute fields.

127.   The data processing system of claim 123, wherein when the program removes the first attribute from the source code, the program removes a method associated with the first attribute from the source code.

128. The data processing system of claim 123, wherein when the program generates the second attribute in the source code, the program generates a method in the source code to access the second attribute field of the data structure.

129.   A data processing system comprising:

a secondary storage device further comprising source code;

a memory device further comprising a program that receives an indication to update a data structure related to the source code, that determines whether a first attribute field of the data structure is associated with a first attribute in the source code, and when it is determined that the first attribute field of the data structure is not associated with the first attribute of the source code, the program removes the first attribute field from the data structure, the program further determines whether a second attribute in the source code is associated with a second attribute field in the data structure, and when it is determined that the second attribute is not associated with the second attribute field in the data structure, the program adds the second attribute field to the data structure; and

a processor for running the program.

130.   The data processing system of claim 129, wherein when the program further retrieves access information for a database that stores the data structure, and retrieves a portion of the data structure from the database using the access information.

131.   The data processing system of claim 130, wherein when the program retrieves the access information, the program retrieves an identification of the data structure and the access information from a configuration file.

132.   The data processing system of claim 130, wherein when the program retrieves the access information, the program retrieves an identification of the data structure and the access information from a comment of the source code.

133.   The data processing system of claim 130, wherein the portion of the data structure comprises the first attribute field in the data structure.

134.   The data processing system of claim 129, wherein the source code comprises a class.

135.   The data processing system of claim 129, wherein the source code comprises a distributed computing component.

136.   A system having a memory device with source code and a secondary storage device with a data structure corresponding to the source code, the system comprising:

means for receiving an indication that the data structure has been modified; and

5   means for automatically reflecting the modification in the source code so as to avoid completely regenerating the source code.